

# A strawman framework for planning and tracking of transitions from HMT research and prototyping into NWS operations

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# A Possible Strategy for HMT

- Do not lump all transitions into one “bucket”
- Some transitions are very feasible and require little if any HQ involvement or approval (which is likely partly why HQ tends not to “count” these)
- Identify a rationale separation of transitions into categories that related to the scope of impact it might have on day-to-day workload and operations, and on its cost implications.
- Scale the oversight and approval processes accordingly.

# A strawman proposal - overview

- Identify 4 categories of proposed transitions according to these criteria:
  - Impact on day-to-day forecast operations and workflow
  - Impact on infrastructure
  - One time and recurring costs
- Delegate approval authority as low into the organization as possible, and let the people most affected by the new tools/methods make the decisions

# A strawman proposal – Type-I

- training
- conceptual models
- visualization of existing products/data

# A strawman proposal – Type-II

- algorithm updates (Q2 VPR)
- post processing model output
- reforecast data update
- reforecast data processing/display tools
- new observations

# A strawman proposal – Type-III

- decision support tools
- new model runs

# A strawman proposal – Type-IV

- major new models run operationally
- major ground based observations
- major satellite based observations

# Strawman Transition Type Matrix

Transition type	Examples	Workflow impacts	One-time Costs	Corporate infrastructure impacts	Decision authority/ evaluation method
I	Training; new visualization tools	minor	minor	minor	Field office/ COMET
II	Algorithm updates; ingest new data	minor	significant	minor	Field office or Regional HQ/ Technical test
III*	New modeling techniques/runs; new Decision Support Tools	significant	significant	significant	Center Director or NWS Director/OSIP
IV*	New satellites, radar networks, IT systems	significant	significant	very large	NWS Director or NOAA Director/OSIP

\* may require new ops concept (e.g., new model runs at NCEP) or it requires corporate Level investment in infrastructure (e.g., new staff, new observations, new models, new O&M)

# Emerging Transition “Ports”

- National Water Center (NWC)
  - HMT helps develop methods to produce the “best possible” hydrologic forcings and are tested in a proving ground approach within NWC
- Services Delivery Proving Ground (SDPG)
  - Combines inputs from multiple testbeds or other sources on topics that have potential large workflow or field infrastructure implications, e.g., HMT, HWT, ROC, partners all have useful knowledge and input in considering potential future gap-filling radar implementation



# Next steps: HMT internal stakeholders

- Identify past transitions that have occurred
- Identify candidate innovations that could be transitioned
- Identify findings that would best be incorporated in broader planning in SDPG
- Estimate the likely impacts on workflow, one-time costs, and corporate infrastructure
- Characterize the “transition type” for each of these
- Recommend an evaluation method and/or path to operations to be pursued for each candidate
- Establish an HMT transition leader to implement this and to facilitate and track transition activities

# **Incremental improvements to today's tools versus groundwork for breakthrough advances**

- Much of HMT's work is aimed at what could yield breakthrough advances rather than incremental improvements
  - Next generation hydro models
  - Gap filling radars
  - AR detection and prediction methods
- These types of advances don't fit readily into the current operational system, yet could become part of the foundation of future services
- Big changes in services requires buy in at the top